

## ABSTRACT OF THE DISCLOSURE

09/983,772

An inexpensive, small, high-efficiency actuator having a single-phase claw pole structure permits easy assembly or winding and enables a rotor to act in a fixed direction by detent torque even in a deenergization mode. The actuator includes a stator yoke composed of a pair of substantially circular toroidal planar yokes formed of a soft magnetic material, polar teeth which axially protrude from inner peripheral edges of the respective planar yokes and which are disposed so that they face each other, extending in a circumferential direction, and a stator yoke that has a cylindrical ring provided on outer peripheral edges of the planar yokes; an armature being constituted by installing a coil formed by winding a magnet wire in a coil receiving section shaped like an annular recess formed by the planar yokes, the polar teeth, and the cylindrical ring of the stator yoke; and a stator assembly which has flanges with bearings provided on both end surfaces of the armature and in which a rotor provided with a magnet for a magnetic field composed of a permanent magnet being installed such that it faces the polar teeth of the stator with minute gaps provided therebetween; wherein the number of the polar tooth equals the number N of rotor magnetic poles (N is 2 or 4).